From:	Peterson, Lance
To:	BAYUK Dana
Cc:	Sheldrake, Sean
Subject:	FW: NW Natural: Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling - Gasco Sediments Site
Date:	Sunday, August 20, 2017 3:27:26 PM
Attachments:	image007.png image008.png image009.png image010.png image011.png image012.png DEQ data gap memo comments.docx

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Dana, DEQ comments have been copied into the attached Word document. A few minor editorial changes have been made (all in redline). Also, in comment #2 there appears to be a missing word. Can you complete the text as needed and return to me? Thanks,

Lance

From: Sheldrake, Sean [mailto:sheldrake.sean@epa.gov]
Sent: Thursday, August 17, 2017 1:39 PM
To: BAYUK Dana <dana.bayuk@state.or.us>
Cc: Coffey, Scott <CoffeySE@cdmsmith.com>; DeMaria, Eva <DeMaria.Eva@epa.gov>; Gamache, Matthew <GamacheM@cdmsmith.com>; LARSEN Henning <henning.larsen@state.or.us>; MCCLINCY Matt <matt.mcclincy@state.or.us>; Peterson, Lance <PetersonLE@cdmsmith.com>; 'GREENFIELD Sarah' <sarah.greenfield@state.or.us>
Subject: RE: NW Natural: Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling - Gasco Sediments Site

Great comments Dana. We'll pass them on—and will let you know if we have any questions or items we should discuss further.

S

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From: BAYUK Dana [mailto:dana.bayuk@state.or.us]
Sent: Thursday, August 17, 2017 12:35 PM
To: Sheldrake, Sean <sheldrake.sean@epa.gov>
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Subject: RE: NW Natural: Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling - Gasco Sediments Site

Afternoon Sean.

DEQ reviewed the "NW Natural Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling – Gasco Sediments Site" technical memorandum dated August 7, 2017. The memorandum provides NW Natural's proposal to conduct an initial in-water data collection event to support planning for more comprehensive pre-design data gaps sampling work to follow. The scope of work includes placing six seepage meters in the river to measure groundwater seepage flux in shallow sediments, and collect co-located shallow sediment, TZW, and surface water samples for chemical analyses.

DEQ's comments identify information and data collection needs that we consider necessary for completing the sampling plan and achieving the goals of the work, or for inclusion in future pre-design data gaps sampling and analytical work. Note that DEQ comments 2.a. and 2.b. include recommendations to expand the proposed sampling and analytical program to include:

- All ROD Table 17 constituents to provide a basis for making decisions regarding future comprehensive data gaps sampling;
- Key Gasco COC not identified in the ROD Table 17 to account for, and integrate relevant site-specific data into the sediment remedy planning and design process; and
- Reporting of all parameters included in the laboratory methods referenced, including but not limited to complete reporting under the EPA Method 8260D-SIM and EPA Method 8260C.

DEQ recommends that all of our comments be provided to NW Natural. However, given the short timeframe for implementing the work, if EPA elects not to provide all of these comments, DEQ requests that this initial sampling event include analysis of all ROD Table 17 constituents and that all analytical results be reported by the laboratory.

Going forward DEQ anticipates that key Gasco COC that are not included in ROD Table 17, will be identified and included in future comprehensive pre-design data gaps sampling work.

DEQ's complete comments are provided below.

1. **Page 1, paragraph 2.** NW Natural indicates that the August-September time period represents the period of "…highest potential seepage fluxes." DEQ agrees that it is important to collect seepage and TZW data representative of seasonal conditions. However it is not currently known, that on an annual basis the highest seepage flux occurs during late summer and early fall, as indicated by Anchor. NW Natural should evaluate the available seepage flux data and the magnitude of hydraulic gradients versus time (pre- and post-operation of the HC&C system) to estimate the timing of future pre-design seepage flux measurements and TZW sampling events.
2. **Page 2, paragraph 1.** The memo states that the proposed sampling will, "...further inform the

more comprehensive data gaps sampling plan that will be proposed in the Draft Pre-Remedial Design Data Gaps Work Plan and Sampling and Analysis Plan, and support forthcoming remedial design evaluations presented in the Work Plan". DEQ does not agree the initial sampling approach achieves these goals. Specific data collection objectives and data uses are not included in the document. This information should be described in the text with the applicable remedial design evaluations detailed. If these data are intended to evaluate groundwater flux as a part of the Gasco sediment remedy, the proposed sampling suite should be consistent with applicable remedial design criteria and performance standards to be established in the Basis of Design document currently under review. Furthermore, sample analysis should be inclusive to provide a basis for decision making going forward. Based on this information, DEQ requests the following revisions to tables 2 and 4.

a. Table 2. The proposed analytical suite for the TZW and near-bottom surface water consists of PAHs, VOCs, and conventional parameters. This suite includes all of the PAHs specified in EPA's ROD Table 17 cleanup values for groundwater and surface water, but excludes two of the VOCs; chlorbenzene and tetrachloroethene (PCE). These VOCs should be reported for consistency with EPA's ROD Table 17. Other excluded Table 17 analytes include metals, PCB congeners, BEHP, dioxin/furans, pesticides, VOCs, phenols, and TPH. Given NW Natural anticipates optimum conditions for collecting seepage data (i.e., collect TZW samples representative of seasonally high discharges to the river), analysis of TZW and surface water samples should include:
   - All ROD Table 17 constituents to provide a basis for making decisions regarding future comprehensive data gaps sampling; and
   - Key Gasco COC not identified in the ROD Table 17 (e.g., Volatile Petroleum Hydrocarbons [VPH], Extractable Petroleum Hydrocarbons [EPH], aluminum) to account for, and integrate relevant site-specific data into the sediment remedy planning and design process.

   Furthermore, the analyte list shown in Table 2 suggests that NW Natural intends to report data for a subset of the chemicals included in the referenced laboratory analytical methods (e.g., EPA Method 8270D-SIM, EPA Method 8260C). DEQ requests that the full list laboratory results be provided for completeness.

b. Table 4. The proposed analytical suite for surface sediments includes EPA's remedial action level (RAL) COCs (PAHs, pesticides, dioxin/furans, and PCB congeners) and VOCs. Excluded Table 17 analytes include metals, BEHP, γ-BHC (Lindane), Aldrin, Chlordane, TPH-Diesel. Although delineation of sediment management areas will be based on the RAL COCs as specified in the ROD, the site-specific have not been established. EPA may require that design criteria and performance standards for the Gasco sediment site to be based on achieving the cleanup levels established in Table 17 of the ROD rather than achieving an average sediment concentration below the RALs (as proposed in Section 4.2.3.2 Chemical Isolation, page 19, bullet 1 of the Draft Basis of Design). Based on this information, DEQ recommends that sediment analysis include all ROD Table 17 constituents, and key Gasco uplands COC not identified in the ROD Table 17.

   The analyte list shown in Table 4 indicates that NW Natural will report data associated with a subset of the chemicals included in the referenced laboratory analytical methods (e.g., EPA

Method 8270D-SIM, EPA Method 8260C). DEQ requests that the full list laboratory results be provided for completeness.

3. **Offshore Groundwater Seepage Meters, 2nd paragraph.** Contrary to NW Natural's conclusion that the HC&C system provides offshore seepage control, DEQ concludes that fine-grained sediments, including the Upper Alluvium Silt, and/or heavily contaminated sediments, potentially hydraulically separate shallow river sediments from the Upper Alluvium water-bearing zone (WBZ). The lateral and vertical extent of these low permeability materials is currently unknown. Consequently, the capacity for the HC&C system to achieve groundwater seepage control is considered highly uncertain. As indicated in EPA's April 7, 2017 letter, collection of empirical data demonstrating seepage control in shallow offshore sediments is a primary line of evidence for corroborating the groundwater model that is currently lacking.

   The scope of NW Natural's initial pre-design data gaps sampling scope proposes deploying six seepage meters for this purpose. NW Natural bases seepage meter locations on the availability of the equipment from the vendor (only six available); the range of groundwater flux made measured before HC&C system start-up; and the preliminary areas associated with sediment remedial technologies. This information is inadequate to support the goals of the proposed scope of work. NW Natural should provide information regarding how the seepage meter locations have been selected to demonstrate seepage control in shallow sediments, including but not limited to discussing the following:

   a. The conclusion that the potential hydraulic divide occurs between shallow fine-grained sediments and the Upper Alluvium WBZ is based on data collected at piezometer clusters. Seepage meters are not placed near piezometers, so there data is unavailable for comparison. Consequently, the depth a potential hydraulic divide is not being assessed.
   b. The nature and extent of low permeability materials in the river (fine-grained and/or impacted sediments) is a factor influencing seepage control. To the extent practicable given available information, seepage meters should be placed to assess seepage from locations representative of low permeability material. For example, a location where shallow sediments exhibit a high-percent levels of fines.

   This information should be considered for locating seepage meters in the initial sampling plan, and should be carried forward during the planning of future pre-design data gaps work. The depth of a potential hydraulic divide, the nature of in-river sediments, and the extent of heavy MGP impacts are important factors for planning and designing the sediment remedy.

4. **Data Quality Objectives and QA/QC Sampling, page 5.** Data should be collected and reported in a manner that is compatible with the site-wide database for the Harbor. Analytical data results should be provided in an electronic format that is consistent with the data reporting rules established by the LWG for the Portland Harbor Remedial Investigation report.

Sean, don't hesitate to contact me with questions regarding this e-mail, and hope your day goes well.

Dana

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From: Sheldrake, Sean [mailto:sheldrake.sean@epa.gov]
Sent: Tuesday, August 08, 2017 7:35 AM
To: LIVERMAN Alex; BAYUK Dana; brandy.humphreys@grandronde.org; callie@ridolfi.com; Chu Rebecca; Scott Coffey; Cora, Lori; Courtney Johnson (courtney@crag.org); HAFLEY Dan; dexb@yakamafish-nsn.gov; Ebright, Stephanie; DeMaria, Eva; Gail Fricano (gfricano@indecon.com); Genevieve Angle - NOAA-NMFS (Genevieve.Angle@noaa.gov); Gustavson, Karl; Holly Partridge (Holly.Partridge@grandronde.org); Jen Graham; Jen Kassakian (jkassakian@indecon.com); Jeremy_Buck@fws.gov; jweis@hk-law.com; PARRETT Kevin; Knudsen, Laura; Kristin Callahan; Lance Peterson (PetersonLE@cdmsmith.com); Laura Klasner Shira; Matt Johnson - JD Law Umatilla rep. (MatthewJohnson@ctuir.org); MCCLINCY Matt; tosm@yakamafish-nsn.gov; Michael.karnosh@grandronde.org; NaomiStacy@ctuir.org; Rachel DelVecchio (rdelvecchio@indecon.com); Rita Cabral (rcabral@indecon.com); Robert Brunoe (robert.brunoe@ctwsbnr.org); Robert.Neely@noaa.gov; rose@yakamafish-nsn.gov; GREENFIELD Sarah; ted_buerger@fws.gov; tomd@ctsi.nsn.us
Subject: FW: NW Natural: Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling - Gasco Sediments Site

Hello everyone, Please see this near term field event plan for your information. Let me know if you plan to submit comments. As this is data will not be the last chance to fill data gaps at the site, hopefully having multiple chances to comment on data gaps issues will relieve a bit of the pressure on this short turnaround. The rapid turnaround is intended to capture some planning level data on the performance of the hydraulic capture and control system (HC&C) during favorable low river level and higher groundwater level cap flux conditions (or unfavorable, depending on your point of view) that represent the types of parameters we'll need to design the in water remedy under the Gasco/Siltronic AOC.

Thank you.

S

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From: Jen Mott [mailto:jmott@anchorqea.com]
Sent: Monday, August 07, 2017 7:42 PM
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Cc: Bob Wyatt <rjw@nwnatural.com>; Patty Dost <pdost@pearllegalgroup.com>; Sarah Riddle <sriddle@pearllegalgroup.com>; Rachel Melissa (RMelissa@pearllegalgroup.com) <RMelissa@pearllegalgroup.com>; BAYUK Dana <dana.bayuk@state.or.us>; GREENFIELD Sarah <sarah.greenfield@state.or.us>; Myron Burr (myron.burr@siltronic.com) <myron.burr@siltronic.com>; 'Mike Murray' <mmurray@maulfoster.com>; 'James Peale (jpeale@maulfoster.com)' <jpeale@maulfoster.com>; Kelly Titkemeier (ktitkemeier@maulfoster.com) <ktitkemeier@maulfoster.com>; Mary Benzinger (mbenzinger@maulfoster.com) <mbenzinger@maulfoster.com>; Crystal, Mike <MDCrystal@sevenson.com>; 'Michael J. Crystal (mjcrystal@sevenson.com)' <mjcrystal@sevenson.com>; 'Donegan, Tim' <TDonegan@sevenson.com>; Ryan Barth <rbarth@anchorqea.com>; Carl Stivers <cstivers@anchorqea.com>; John Verduin <jverduin@anchorqea.com>; Ben Hung <bhung@anchorqea.com>; Holly Samaha <hsamaha@anchorqea.com>; Joe Smith <jsmith@anchorqea.com>; Zhen, Davis <Zhen.Davis@epa.gov>; DeMaria, Eva <DeMaria.Eva@epa.gov>; Lance Peterson (PetersonLE@cdmsmith.com) <PetersonLE@cdmsmith.com>; Scott Coffey <coffeyse@cdmsmith.com>; Jen Mott <jmott@anchorqea.com>
Subject: NW Natural: Proposed Summer 2017 Initial Pre-Remedial Design Data Gaps Field Sampling - Gasco Sediments Site

Sean,

Per your discussion with Bob Wyatt during your meeting last Thursday, attached for your review and approval please find NW Natural's proposal to perform an initial round of data collection at the Gasco Sediments Site in late August and early September 2017. NW Natural proposes that this initial data collection event occur during this timeframe to take advantage of annual low river water surface water elevations and to help inform the more comprehensive data gaps sampling event that will be proposed in the Draft Pre-Remedial Design Data Gaps Work Plan and Sampling and Analysis Plan NW Natural expects to submit to EPA in late 2017 or early 2018, in accordance with the EPA-approved Gasco Sediments Site revised Schedule of Project Deliverables. NW Natural understands that the more comprehensive data gaps sampling event will include additional sampling locations and media to support a broader set of data objectives. This initial data collection event is not intended to limit the scope of work for that future comprehensive data gaps sampling event.

Due to contractor availability, the work is proposed to be completed between August 28 through September 8. Please let us know if the EPA team will be able to review this proposal in sufficient time to facilitate this schedule. The diver Health and Safety Plan will be submitted tomorrow.

Please contact Bob Wyatt or Ryan Barth at Anchor QEA during your review if you have any

questions.

Thanks.

Thank you,
Jen Mott ☺
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